6.5 Practice B

In Exercises 1–3, find the common ratio of the geometric sequence.

1. 5, 20, 80, 320, …   **2.** 144, −72, 36, −18, …   **3.** 24, 84, 294, 1029, …

In Exercises 4–7, determine whether the sequence is *arithmetic*, *geometric*, or *neither*. Explain your reasoning.

4. 2.786, 27.86, 278.6, 2786, …   **5.** 86, 71, 56, 41, …

6. 4, −10, 16, −28, …   **7.** $112, -28, 7, -\dfrac{7}{4}, \ldots$

In Exercises 8 and 9, write the next three terms of the geometric sequence. Then graph the sequence.

8. −2, −12, −72, −432, …   **9.** $\dfrac{54}{25}, \dfrac{18}{5}, 6, 10, \ldots$

In Exercises 10–13, write an equation for the *n*th term of the geometric sequence. Then find a_6.

10. $\dfrac{3}{125}, \dfrac{3}{25}, \dfrac{3}{5}, 3, \ldots$ **11.** 0.2, 1.6, 12.8, 102.4, …

12.

n	1	2	3	4
a_n	2436	−243.6	24.36	−2.436

13.

n	1	2	3	4
a_n	−1458	−162	−18	−2

14. An archery competition begins with 256 competitors. After the first round, one-fourth of the competing group remains. After the second round, one-fourth of the now smaller competing group remains. The last round is when there are fewer than five members in the competing group.

  a. Which round is the last round?

  b. How many competitors are in the last round?

15. What is the 10th term of the geometric sequence where $a_3 = \dfrac{8}{3}$ and $r = \dfrac{2}{3}$?

16. Find the sum of the terms of the geometric sequence

$$1, \frac{1}{3}, \frac{1}{9}, \frac{1}{27}, \ldots.$$

Explain your reasoning.